

REMARKS

I. Introduction

Claims 1-31 are pending. By this Amendment, claims 1, 10, and 25 are amended to more particularly recite the features of the invention. New claims 29-31 are added. In view of the foregoing amendments and following remarks, Applicant respectfully submits that claims 1-31 are in condition for allowance. A notice indicating the same is respectfully requested.

II. Rejections under 35 U.S.C. § 103

In numbered paragraph 2 on page 2 of the Office Action, claims 1-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,235,115 to Duke in view of U.S. Patent No. 5,687,866 to Luch et al. By this Amendment, independent claims 1 and 10 are amended to more particularly recite the features of the present invention. Therefore, in view of the foregoing amendments and following remarks, Applicant respectfully traverses the rejection as failing to establish a *prima facie* case of obviousness and submits that at least claims 1-24 are in condition for allowance.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §§ 2143 - 2143.03. Furthermore, “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

Amended claims 1 and 10 of the present application recite “a flange extending radially outward between said upper and said lower sidewalls, wherein the flange includes *undulations* on a top surface, the undulations extending radially outward from said upper sidewall” (emphasis added). In one exemplary definition, the term “undulation” is defined as “a wavy, curving form

or outline, esp. one of a series.”¹ Thus, the claims require (i) a flange extending radially outward between the upper and lower sidewalls, (ii) undulations on a top surface of the flange, and (iii) the undulations extending radially outward from the upper sidewall. The recited structure of the undulations in relation to the flange and the upper sidewall provides the necessary strength to prevent deflection of the neck portion, especially the flange, during capping operations or when other top loads are applied to the container. *See, e.g.*, paragraph [0022] of the disclosure.

By contrast, Duke and Luch, either alone or in combination, fail to show or disclose “a flange extending radially outward between said upper and said lower sidewalls, wherein *the flange includes undulations on a top surface*, the undulations extending radially outward from said upper sidewall,” as recited in at least claims 1 and 10. Duke, for example, shows and discloses a tamperproof closure 20 and bottle 10 combination, the exterior surface of the bottle 10 being provided with a plurality of circumferentially equally spaced protuberances 18 between a lowermost thread formation 12 and an upper ledge of roll 16. The closure 20 includes a tamperproof band 30 partially and circumferentially separated from the skirt 24 of closure 20, the tamperproof band 30 further including a plurality of inwardly projecting lobes 32 disposed on an inner surface of the tamperproof band 30. When assembled, the plurality of inwardly projecting lobes 32 cooperate with the protuberances 18 on the bottle 10 to restrain the tamperproof band 30 against rotation (*see* FIGS. 1-3; column 3, line 16- column 4, line 9). Notably, Duke further discloses the bottle 10 of the invention as being glass (*see* FIGS. 1-3; column 1, lines 31-32). It is respectfully submitted that the circumferentially equally spaced protuberances 18, as shown and described in Duke, are not “undulations” within the common meaning of the term. Thus, Duke does not teach a flange including undulations on a top surface as required by at least independent claims 1 and 10.

The Office Action, as best understood, cites Luch as teaching that it would have been obvious to modify the lugs 18 of Duke to have a triangular configuration as recited in claims 5 and 13. Luch teaches a tamper-evident, snap-on, screw-off closure 21 having downwardly directed teeth 81 adapted to engage a locking portion 40 on a specially shaped container neck 22, the locking portion 40 including teeth 51 projecting upwardly from a shoulder 47. The teeth 51

¹ Webster’s New World Dictionary of the American Language, Second College Edition, Simon & Schuster, 1980.
Larry TAYLOR et al.

are separated by a space 52 for receiving the teeth 81 of the closure 21 (*see* FIGS 5, 6, and 10; column 4, lines 54 – 65; column 6, lines 29-47). Luch fails to teach or suggest a **flange** as recited in claims 1 and 10. Shoulder 47 is not a flange. Furthermore, Luch points out at column 4, lines 27-28 that the recited container is a **blow-molded plastic bottle**.

As set forth above, independent claims 1 and 10 require a flange extending radially outward between said upper and said lower sidewalls, wherein the flange includes undulations on a top surface, the undulations extending radially outward from said upper sidewall. The Applicants respectfully submit that there is no motivation or suggestion to combine Duke and Luch to meet the limitations of the claims. Duke is directed to a glass bottle whereas Luch is directed to a plastic container. Given the fundamental structural differences between glass and plastic, it is respectfully submitted that one of ordinary skill in the art would not be motivated to look to the plastic container of Luch to modify the glass bottle and protuberances as disclosed in Duke. Thus, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. M.P.E.P. § 2143.01(III) (citing *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990)).

For at least the foregoing reasons, claims 1 and 10 are submitted as being allowable. None of the cited prior art references are believed to remedy the deficiencies in Duke and Luch. Claims 2-9 and 11-24 depend from claims 1 and 10, respectively, and are submitted as being allowable over Duke and Luch for at least the same reasons. Reconsideration is respectfully requested.

Additionally, claims 4 and 12 recite that “said undulations form an approximately **sinusoidal wave** at the point of connection with said upper sidewall” (emphasis added). The Applicants respectfully submit that the applied prior art references of record fail to show or suggest this feature. Thus, Applicants respectfully request reconsideration and withdrawal of the rejection.

In numbered paragraph 3 on pages 2-3 of the Office Action, claims 19-23 and 25-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Duke and Luch, as applied to claim 10, further in view of European Patent Document EP 0000823 to Robinson (“Robinson”). By this Amendment, independent claims 10 and 25 are amended to more particularly recite the features of the present invention. Claims 11-24 and 26-28 depend from claims 10 and 24, respectively, and are submitted as being allowable over the cited references for at least the same reasons set forth above with regard to claims 1 and 10.

In numbered paragraph 4 on page 3 of the Office Action, claim 24 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Duke and Luch, as applied to claim 10, further in view of U.S. Patent No. 6,105,800 to Czesak. By this Amendment, independent claim 10 is amended to more particularly recite the features of the present invention. Claim 24 depends from claim 10 and is submitted as being allowable over the foregoing references for at least the same reasons set forth above.

III. New Claims 29-31

New claims 29-31 recite that the flange is a **hollow annular flange**. Support for the recitation that the flange is a hollow annular flange can be found, for example, in at least paragraphs [0005], [0023], and [0024]. Paragraph [0005], for example, states, in relevant part:

[S]uch flanges are typically formed as a hollow outwardly projecting ‘V’, thus having an appearance similar to a single fold of an accordion or bellows. When topload pressures are applied to such a structure, for example during capping operations, the flange tends to fold, which results in a deflection that can lead to misapplication of the cap. This becomes even [more] problematic during hot-fill processing. To overcome this problem, prior art solutions have included the use of larger amounts of material. However, increase[s] in amounts of material, i.e. increases in “gram weight,” are undesirable; lightweighting of containers without a deterioration of physical properties can give a manufacturer a significant competitive advantage.” (emphasis added).

Furthermore, paragraph [0023] states:

As a point of reference, *in prior art containers having a V-shaped flange, the upper part of the "V" connects to the upper vertical sidewall at about a point analogous with the position at which the peaks 202 connect with the upper vertical sidewall 212.* Thus, the flange in prior art containers is, overall, a wider structure than a flange according to the present invention, incorporating the entire undulating surface. Conceptually, *the undulations 222 of the present invention are sculpted into the top surface of a flange that would typically be present according to the prior art, thus creating depressions. The depressions result in the formation of the valleys 204, and the peaks 202 are conceptually the top of the original flange.* Of course, because the undulations are formed in a unitary molding process, depression of a flange is only a conceptual tool for visualizing the invention. (emphasis added)

Thus, the radially outwardly extending annular flange of the present invention is hollow in order to reduce the gram weight of the blown container, but further includes the recited undulations on a top surface thereof to maintain strength and rigidity in the flange. This feature is not disclosed or suggested by the prior art and, for the same reasons presented above, there is no suggestion or motivation to combine or modify the references. Although Luch points out at column 4, lines 27-28 that with blow-molded plastic bottle finishes, the interior contour tends to follow that of the neck exterior, Luch nonetheless fails to teach or suggest a hollow annular flange. As previously set forth, shoulder 47 is not a flange. Accordingly, Applicants respectfully submit that new claims 29-31 are allowable over the prior art of record.

IV. Conclusion

Claims 1-31 are pending in the application. The Applicants respectfully submit that claims 1-31 are in condition for allowance and requests issuance of a Notice of Allowability indicating the same. It is not believed that extensions of time or other fees are required beyond those that may otherwise be provided for in documents accompanying this paper. If, however, additional extensions of time are needed to prevent abandonment of this application, such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor (including fees for net addition of claims or any other fee deficiency), are hereby authorized to be charged, and any overpayments credited to, our Deposit Account No. 22-0261.

If the Examiner believes, for any reason, that a personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,



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